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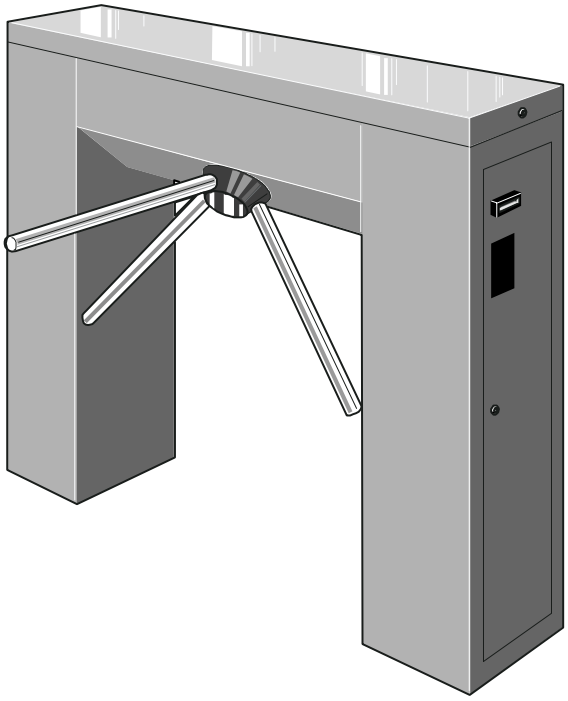
Automatic Systems



Tripod turnstile type TR450

INSTALLATION MANUAL

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4. ANNEX: ELECTRICAL DIAGRAM

1. INTRODUCTION

We thank you for having chosen the electrical tripod turnstile type TR450 designed and manufactured by Automatic Systems. We are confident that your purchase will fully meet your requirements. However, in order to obtain maximum satisfaction from this equipment for a maximum period of time, we strongly advise you to read this manual carefully before installing the equipment.

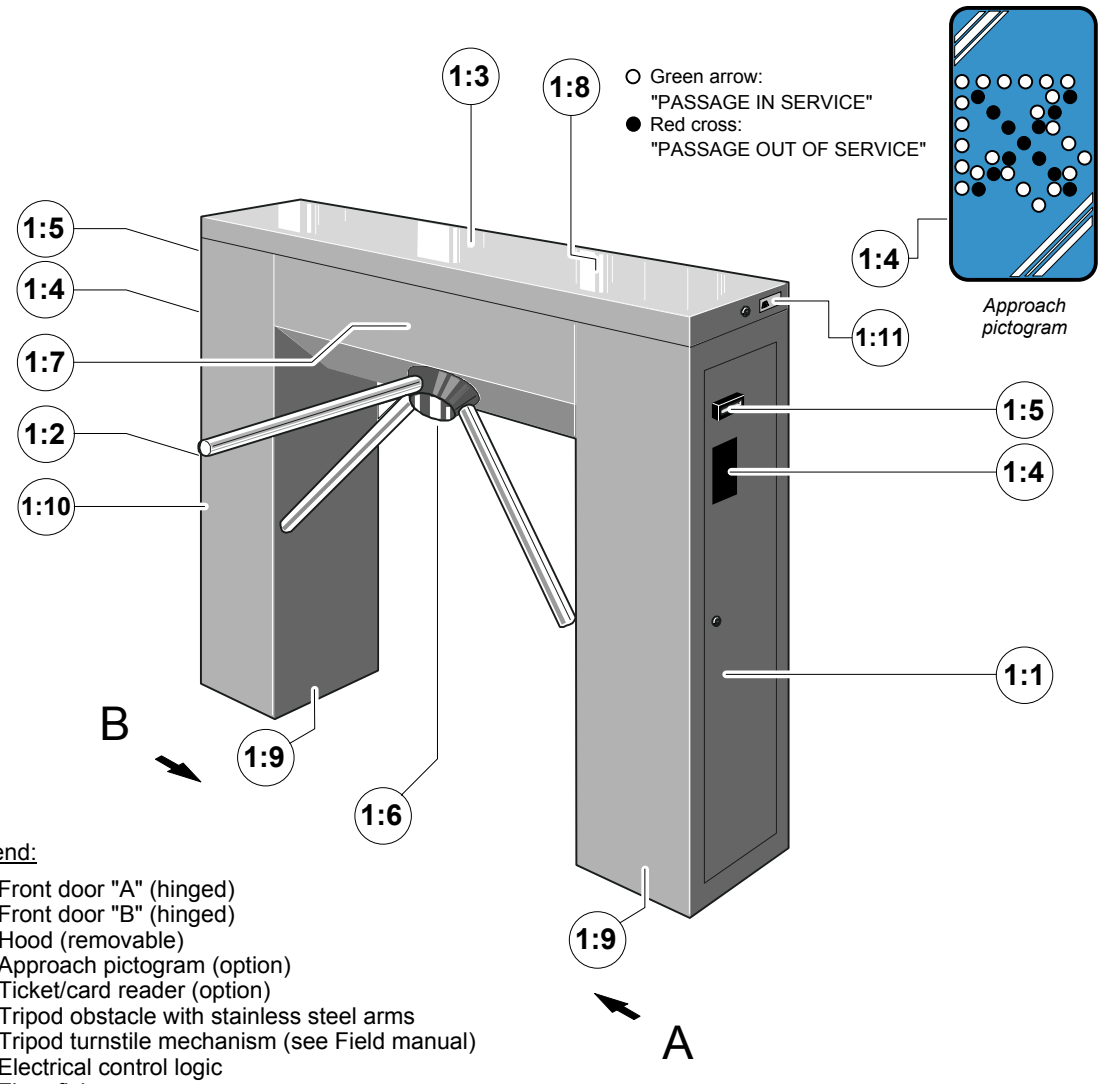
Although this manual has been prepared with great care, some information may seem erroneous or unclear to you. In this case, please do not hesitate to contact us with your remarks or questions.

WARNING:

YOUR TRIPOD TURNSTILE TYPE TR450 COMPRISES A MECHANISM AND VARIOUS ELECTRICAL COMPONENTS. ANY NEGLIGENCE DURING AN INTERVENTION IN THE MACHINE MAY SERIOUSLY ENDANGER YOUR SAFETY. AS SOON AS YOU OPEN THE HOUSING, PUT OFF THE MAIN SWITCH (**2:1**) ON THE ELECTRICAL CONTROL LOGIC (**2:2**), LOCATED UNDER THE HOOD. BE CAREFUL IN HANDLING ANY INTERNAL ELEMENT WHICH MIGHT BE UNDER POWER OR COULD BE SET IN MOTION.

2. GENERAL

2.1. General view



Legend:

1:1 Front door "A" (hinged)
1:2 Front door "B" (hinged)
1:3 Hood (removable)
1:4 Approach pictogram (option)
1:5 Ticket/card reader (option)
1:6 Tripod obstacle with stainless steel arms
1:7 Tripod turnstile mechanism (see Field manual)
1:8 Electrical control logic
1:9 Floor fixing
1:10 AISI304 stainless steel housing
1:11 Commercial identification plate

Fig. 1

Note:	*Conventionally and as a general rule, the user will be considered in direction "A" when the turnstile is at his right-hand side, in direction "B" when the turnstile is at his left-hand side.*

2.2. Switching off the equipment

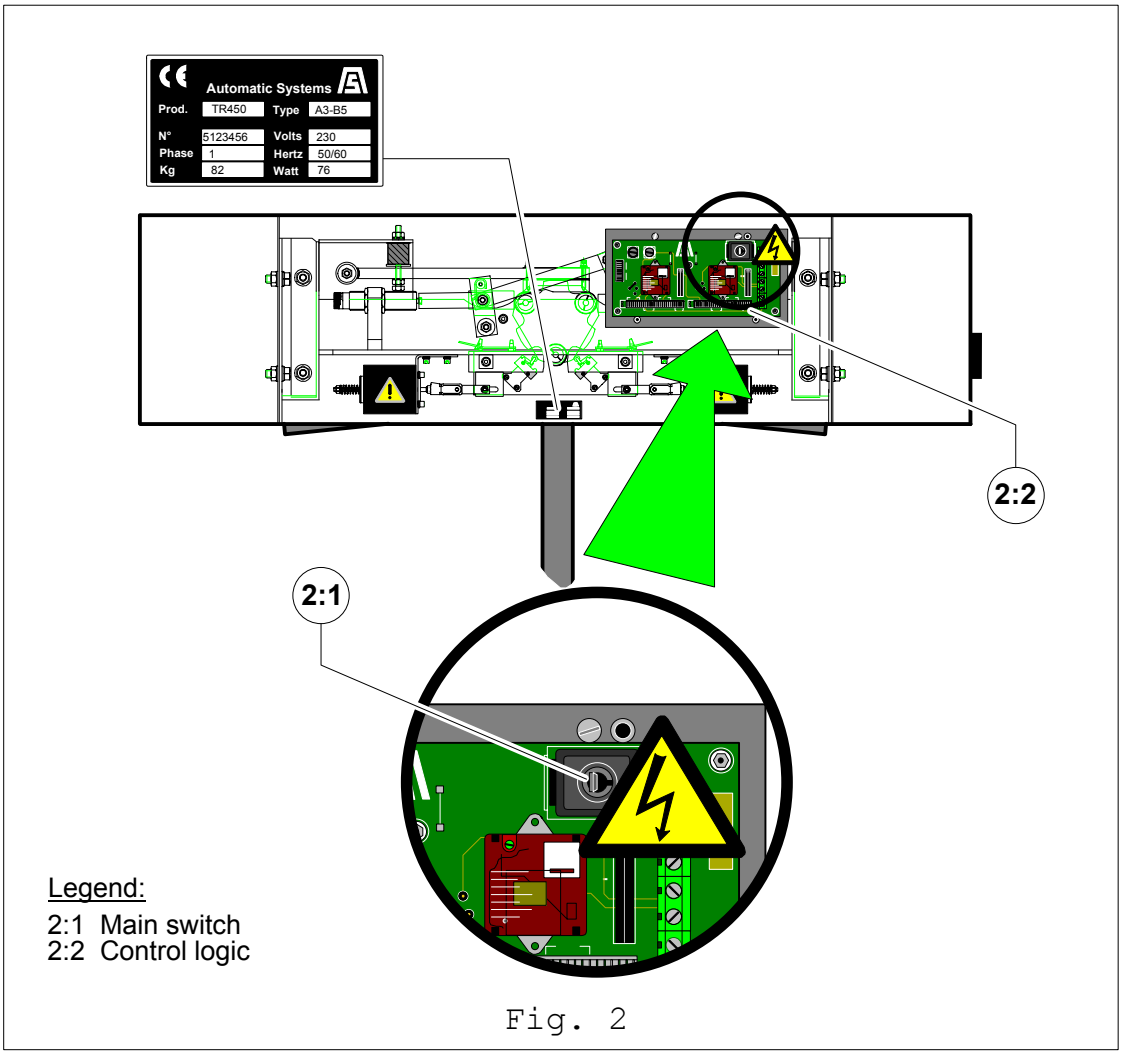


Fig. 2

- As soon as you open the housing, put off the main switch (**2:1**) on the electrical control logic (**2:2**), located under the hood.

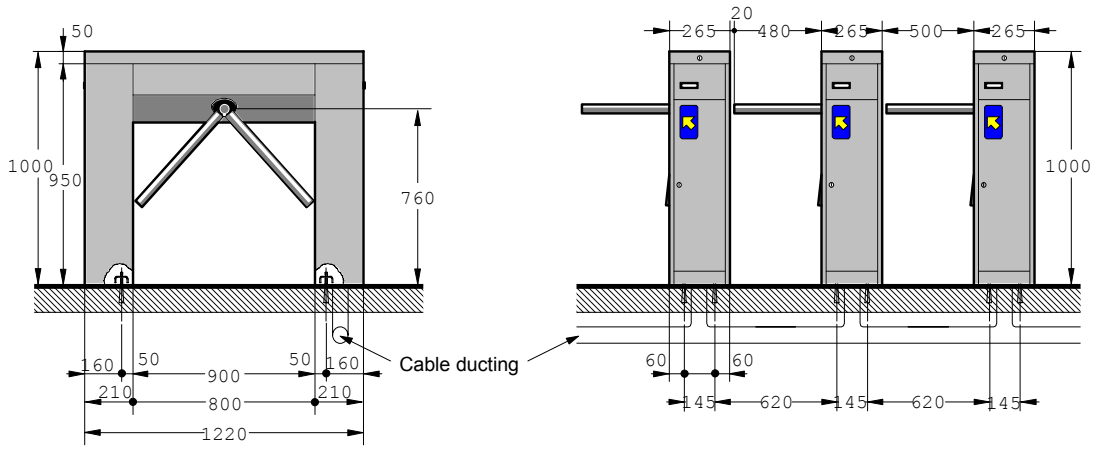
2.3. General conditions of use

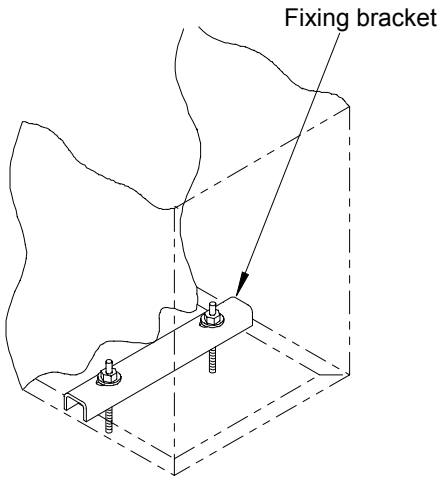
- Your tripod turnstile type TR450 has been designed to operate in any climatic environments of -20°C to +60°C, with up to 90% of relative humidity.

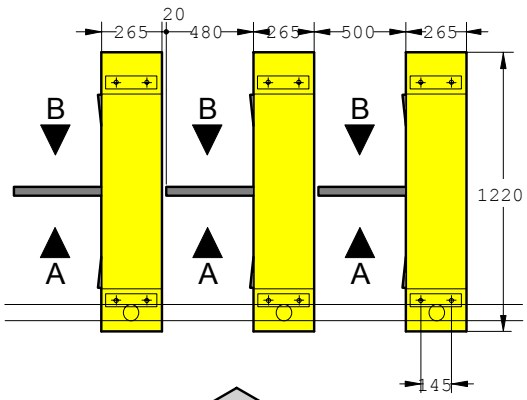
2.4. In case of power failure

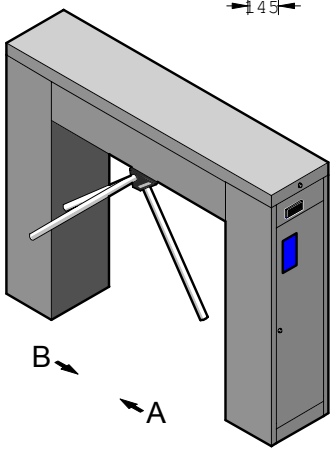
- Depending on which control mode the tripod is set up for, the tripod turnstile type TR450 can release the walkway in either direction or in both, when the electrical power supply is interrupted. This unlocking principle in an emergency situation is called the "anti-panic" device. Refer to *paragraph [3.2. Principle of operation]* in the Field manual for more information.

2.5. Overall dimensions and installation plan









Cabling to be prepared:

Power supply: 230V single-phase + earth (3G x 2.5)

Control wiring according to specifications

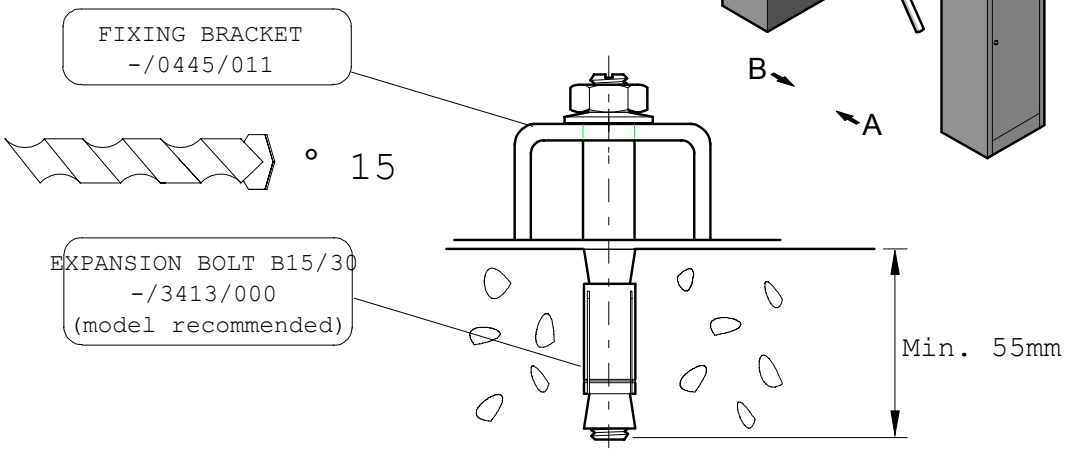


Fig. 3

3. INSTALLATION

3.1. First step

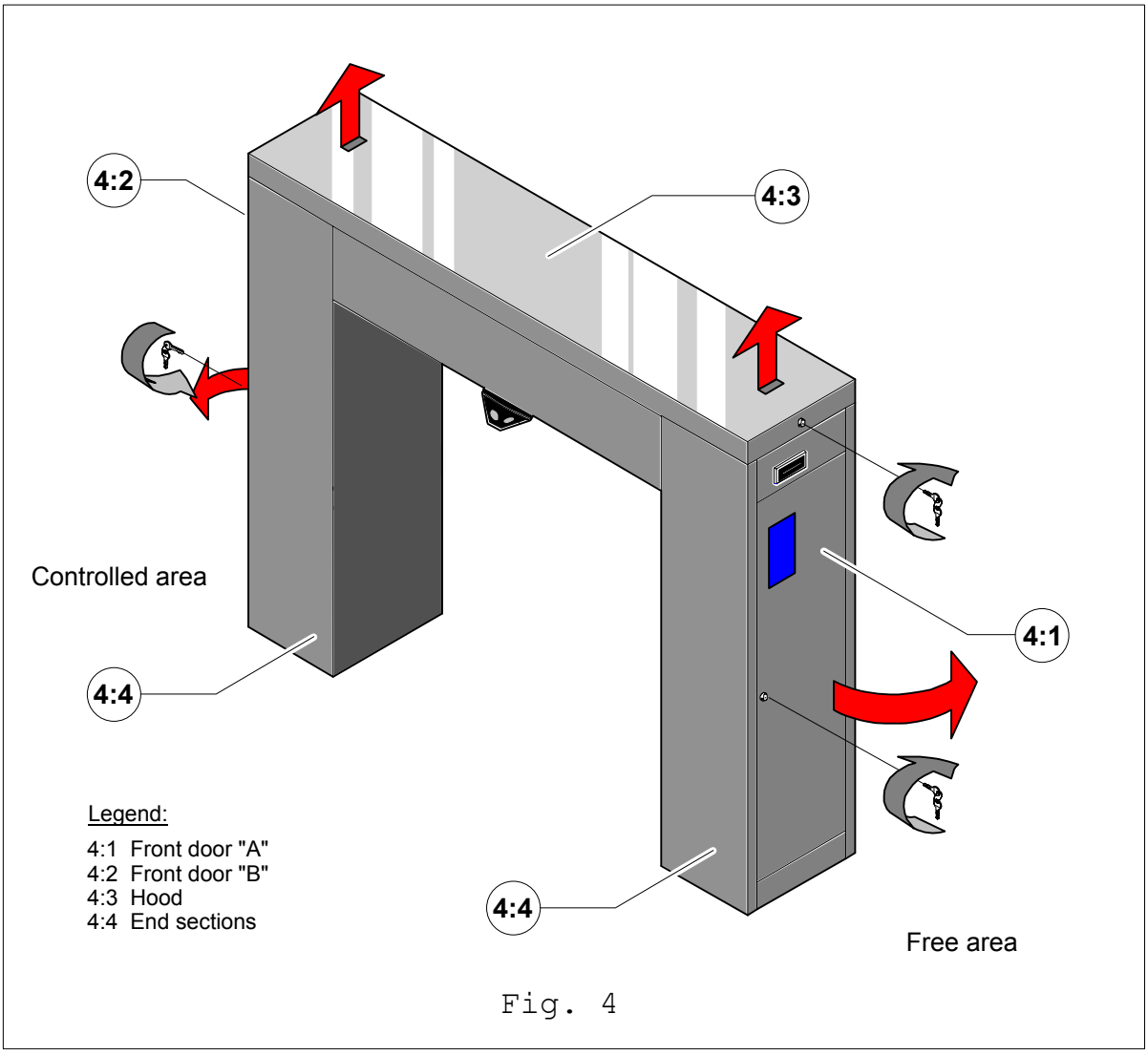


Fig. 4

- The tripod turnstile has been packaged suitable for transport. Move the material to the installation site with the assistance of a fork-lift, or manual hand truck and remove the packing material.
- Unlock and open the front doors (**4:1**) and (**4:2**). Keys are supplied as accessories in a separate bag.
- Open and remove the hood (**4:3**).

- Check the state of the material. Though it has been carefully packed, damage may have occurred during transport. Any transportation damage should be repaired, or components replaced.

3.2. Preliminary work on site

- This is basically the following:

  - Check the positioning and location of the equipment according to the site's general lay-out.

  - Preparation of fixing holes in the floor as in Fig. 3. Make sure to drill holes with the diameter adapted to the expansion bolts that will be used (type recommended: model B15/30, ref. -/3413/000). Ensure that the drilling positions do not conflict with any cables, pipes, ducts or steelwork in the floor structure. If this does occur, a slight repositioning of the turnstile may be needed.

  - Preparation of electrical supply and control cabling: all power and control cables enter the turnstiles through the floor at either end section (rear or front). Mark and drill entry holes in floor as described for the fixing holes. A single-phase, 230V 2Amp (max.) power supply is required, installed to the country Regulations, relevant for this installation, complete with earth bonding for the metalwork. Control cables for remote desk consoles (if supplied), and other access control devices (when applicable) will also be required, installed to conform with relevant regulations and control device specifications.

***Note**: All cables to have a 2 meter tail.*

3.3. Installing the tripod turnstile

- Position the turnstile on site precisely.
- Fix the 4 expansion bolts to the floor.
- Put the two fixing brackets inside the front and rear end sections, at the bottom of the housing, as illustrated in Fig. 3. The fixing brackets are supplied as accessories.
- Carefully pull the power or control cables into the end sections of the turnstile (ensure cables are not trapped between the floor and the end sections or the fixing brackets).
- Check turnstile for alignment and level, and tighten fixing brackets firmly.
- When the turnstiles are fitted in banks (rows), of more than 1 unit, attention should be given to the linear, vertical and horizontal alignment. Packing shims can be used.

3.4. Mounting the tripod arms

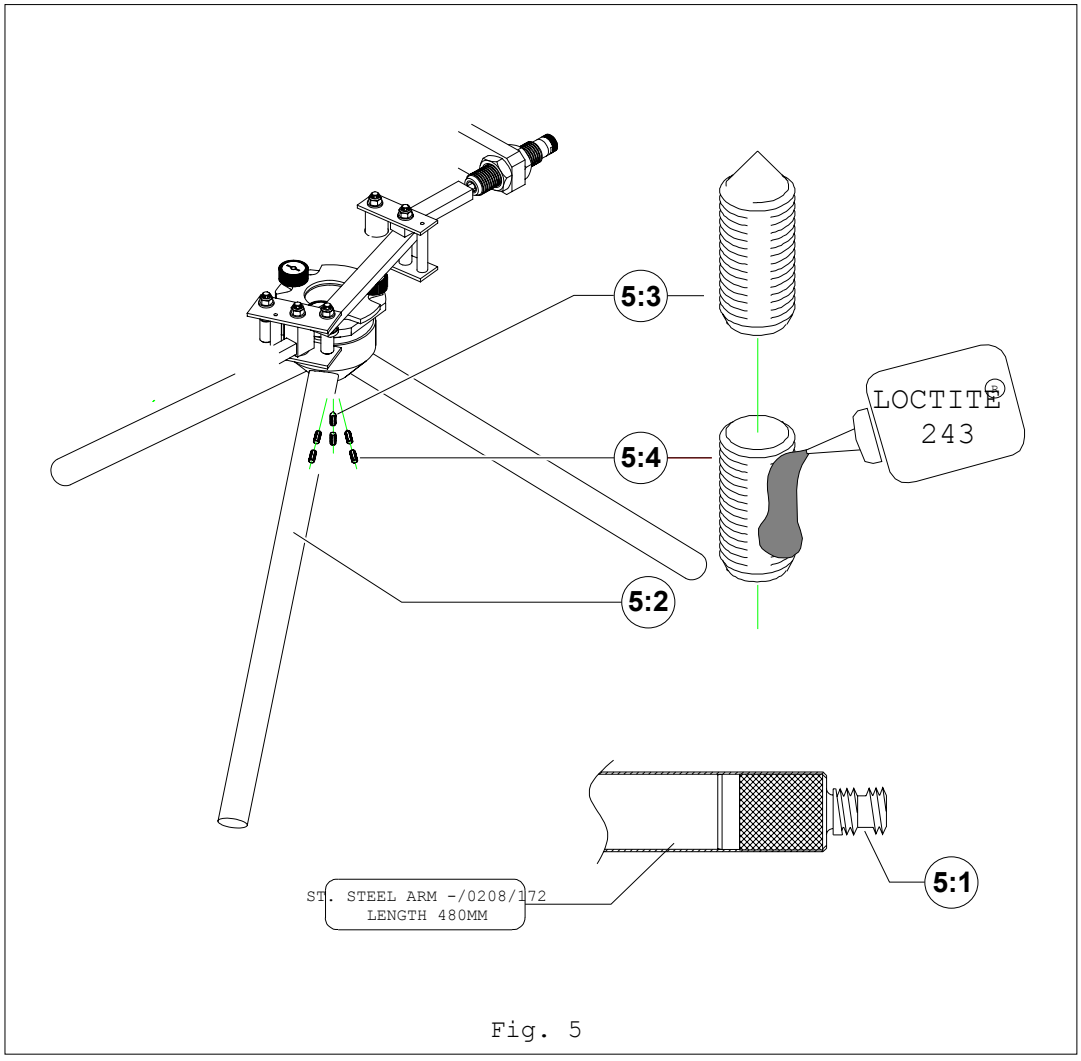


Fig. 5

- Remove the grease from the thread (**5:1**) of the arms (**5:2**) with trichlorethylene (care must be taken when using any substance or chemical that can be harmful, refer to the manufacturer's information and/or a Health & Safety "Risk Assessment") and apply some Loctite® 243 (blue) or an equivalent industrial bonding adhesive on the thread.

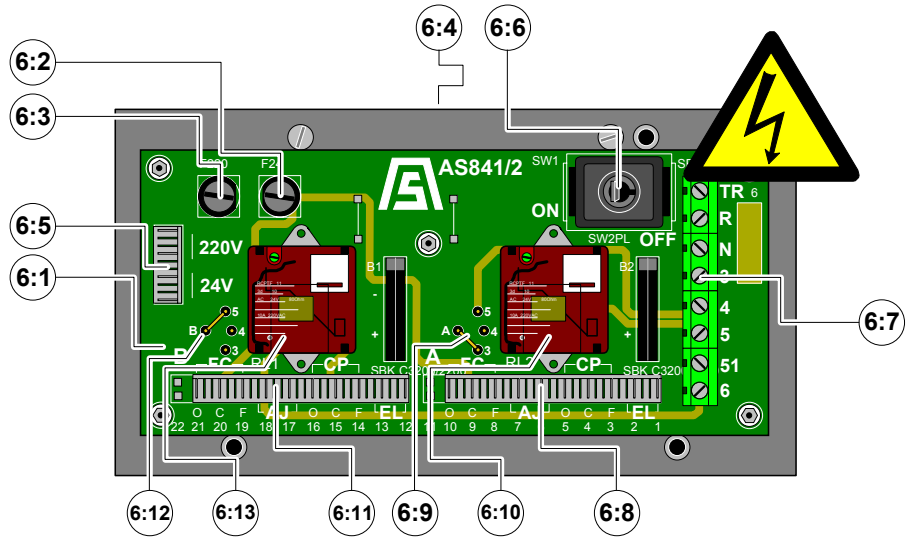
- Screw the arms into the central hub, turn them clockwise and tighten them firmly with the help of a strap tube-wrench.

- For each of the arms, fix the conic-end screw (**5:3**) and tighten it firmly. The screws are supplied as accessories in a separate bag.

- Apply a drop of Loctite® 243 (blue) on the thread of the flat-end screw (**5:4**) and tighten this firmly to lock the conic-end screw (**5:3**).

3.5. Electrical connections and initial power-up

- The electrical connections must be made according to the diagram affixed inside the housing (diagram Automatic Systems 2TR4A5B5).



Electrical control logic (model shown: type A3/B5)

Legend:

6:1 Board AS841/2
6:2 F24 (24V 3.15A fuse)
6:3 F230 (230V 1.6A fuse)
6:4 EREA 230V/24V 100VA transformer
6:5 Transformer connection block
6:6 SW1 (16A 250VAC main switch)
6:7 Power supply & controls connection block
6:8 Internal connection block direction A
6:9 Operation mode selector direction A (3-4-5)
6:10 RL1 (5A relay direction A)
6:11 Internal connection block direction B
6:12 Operation mode selector direction B (3-4-5)
6:13 RL2 (5A relay direction B)

Note: The relay RL1 or RL2 is mounted only for a mechanism type 4 or type 5. If the relay is not mounted, protect the connector with adhesive tape.

Fig. 6

⇨ Make sure that the power supply cables are not live. All internal connections are factory-made.

⇨ If necessary, cut off the excess cable length. Connect the 230V single-phase power supply wires to the terminals R and N on the connection block (**6:7**), and the earth wire to the terminal TR. Make sure the equipment is correctly earth bonded (housing and associated metalwork).

⇨ Proceed with all other electrical connections depending on the equipment specifications (control wiring, etc.).

⇨ Route all cables via the cable entry holes and secure in the cable fastenings provided, ensuring that they are held clear of the turnstile mechanism's moving parts.

⇨ Check the state of the 230V 1.6A (**6:3**) and 24V 3.15A (**6:2**) fuses on the control logic.

⇨ After the power supply from the remote isolator has been energised, test for correct polarity, supply voltage and earthing, power up the equipment by putting the main switch (**6:6**) to the ON position.

3.6. Check-list

❒ Before commissioning the tripod turnstile, proceed with the various mechanical tests as described in the Field manual *paragraph [2.1. First service at 50,000 cycles]*, then electrical (proper operation of the optional readers, pictograms, etc.). In case of a mechanical problem, please refer to the corresponding paragraph.

❒ Check if all wires are firmly connected to their respective terminal blocks.

❒ Check if the tripod arms can be pushed freely if the equipment is powered off, in case a mechanism type 3 or type 5 is mounted (anti-panic device).

❒ Check if all screws and nuts have been tightened firmly.

❒ Inspect the inside of the turnstile to ensure no tools remain, to cause equipment failures.

❒ Remove any foreign body from the inside of the gate (packing, debris, etc.), and clean.

❒ Replace and lock the hood (**4:3**).

❒ Close and lock the front doors (**4:1**) and (**4:2**).

-- The tripod turnstile is now operational. Although all adjustments have been carried out in our factory, a final adjustment may be required, following transportation and installation of the equipment. In this case, refer to the Field manual.

3.7. Temporary dismantling

- If the equipment has to be temporarily dismantled, e.g. if you need to change its location, follow the procedure below.

3.7.1. Disconnecting the equipment

-- Unlock and open the front doors (**4:1**) and (**4:2**).

-- Unlock and remove the hood (**4:3**).

-- Make sure that the power supply cables are not live.

-- Put off the main switch (**6:6**) on the electrical control logic.

-- Disconnect the power supply and earth wires from the connection block (**6:4**).

-- Disconnect any other cabling (control wires, etc.).

3.7.2. Dismounting the tripod arms (if required)

-- Remove the flat-end screw (**5:4**) and the conic-end screw (**5:3**) from the arms (**5:2**).

-- With the help of a strap tube-wrench, turn the arms counter-clockwise to unscrew them.

3.7.3. Removing the unit

-- Loosen the four expansion bolts inside the front and rear end sections, at the bottom of the housing.

-- Remove the two fixing brackets from the turnstile.

***Note**:*	*Either remove, or cut off floor fixing expansion bolts and make good the floor surface, protruding fixings are a dangerous risk to the health and safety of persons using the area.*

-- Using manual handling or fork-lift truck remove the tripod turnstile to safe or its new location for installation.

3.8. Scrapping the equipment

- When the equipment is withdrawn from use, proceed with the dismantling procedure as described in *paragraph [3.7. Temporary dismantling]*. Ensure that the various components of the equipment (metals, electrical components, plastics, etc.) are handled, recycled, or disposed of in the appropriate method, to comply with regulations and codes of practice in the country where the unit is to be scrapped.